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**Effects of doping on the geometrically frustrated Heisenberg antiferromagnet Gadolinium Gallium Garnet** D.M. SILEVITCH, M.A. SCHMIDT, James Franck Institute/University of Chicago, S. GHOSH, University of California, Merced, G. AEPPLI, University College, London, T.F. ROSENBAUM, James Franck Institute/University of Chicago — Geometric frustration in the Heisenberg antiferromagnet Gadolinium Gallium Garnet (GGG) gives rise to a set of quantum protectorates where clusters of spins decouple from the overall spin liquid state. At 110 mK, there is a partial transition to an ordered AF state. Here, we examine the effect of lightly doping GGG with Nd ions, which partially alleviates the underlying frustration. We examine the size and binding energy of the spin clusters as a function of doping and temperature, and also characterize the suppression of the Neel temperature as the dopant concentration is increased.

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